

CLAIMS

What is claimed is:

- 5 1. A radiation-curable coating comprising:
- (i) a component represented by the following formula (a);
- A-X₁-A (a)
- wherein
- A represents a (meth)acrylate group; and
- 10 X₁ represents an aliphatic or aromatic group; and
- (ii) a urethane (meth)acrylate component comprising a (meth)acrylate group, X₁, and a residue of a multifunctional isocyanate.
2. The composition of claim 1, wherein X₁ represents an aromatic group.
- 15 3. The composition according to any one of claims 1-2, wherein X₁ comprises one or more residues of a phenolic group.
4. The composition according to any one of claims 1-3, wherein X₁ comprises one or more alkoxy groups.
- 20 5. The composition according to any one of claims 1-4, wherein said formula (a) represents a bisphenol diacrylate.
- 25 6. The composition according to any one of claims 1-5, wherein said formula (a) represents a bisphenol A diacrylate.
7. The composition according to any one of claims 1-6, wherein said formula (a) represents an alkoxylated bisphenol A diacrylate.
- 30 8. The composition according to any one of claims 1-7, wherein X₁ has a molecular weight below 750 g/mol.
9. The composition according to any one of claims 1-8, wherein X₁ has a molecular weight below 500 g/mol.
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10. The composition according to any one of claims 1-9, wherein said multifunctional isocyanate is an aromatic diisocyanate.
- 5 11. The composition according to any one of claims 1-10, wherein said multifunctional isocyanate is a toluene diisocyanate.
12. The composition according to any one of claims 1-11, wherein said composition comprises an oligomer prepared by reacting one or more polyols with one or more
- 10 polyisocyanates and one or more hydroxyalkylacrylates.
13. The composition according to claim 12, wherein said one or more polyols includes a polyether polyol.
- 15 14. The composition according to claim 12, wherein said one or more polyols includes a polyester polyol.
15. The composition according to any one of claims 1-14, wherein said composition comprises one or more photoinitiators.
- 20 16. The composition according to any one of claims 1-15, wherein said composition, after cure, has a glass transition temperature in the range of 70-130°C.
17. The composition according to any one of claims 1-16, wherein said
- 25 composition, after cure, has a modulus of at least 400 MPa.
18. The composition according to any one of claims 1-17, wherein said composition comprises a colorant.
- 30 19. A product obtained at least in part by curing the composition according to any one of claims 1-18.
20. An optical fiber matrix material, an optical fiber secondary coating, an optical fiber colored secondary coating, an optical fiber ink coating, or an optical fiber bundling
- 35 material obtained by curing the composition according to any one of claims 1-18.

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21. Use of the composition according to any one of claims 1-19 as an optical fiber matrix composition, an optical fiber secondary coating composition, an optical fiber colored secondary coating composition, an optical fiber ink coating composition, or an optical fiber bundling composition.
22. A method of improving the tensile strength, modulus, and/or elongation of a radiation-curable composition comprising:
adding a multi-functional isocyanate to the composition prior to curing.
23. The method according to claim 19, further comprising reacting at least a portion of the added multi-functional isocyanate with a hydroxy-functional mono(meth)acrylate.
24. A composition obtainable by the method according to any one of claims 22-23.

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